

Operational Status Board (OSB)

Sharing Highly Dynamic Information in Real-Time

OSB enables access to the information from any personal computer with Internet access and a secure ID.



Each year, tens of thousands of people around the world die in natural and man-caused disasters. In an emergency, the ability to obtain, track, and share highly dynamic status information is crucial for emergency operations centers (EOCs), incident command centers (ICCs), hospitals, shelters, and other key facilities.

Researchers at Pacific Northwest National Laboratory (PNNL) have developed an innovative operational status board (OSB) capability that allows information regarding an emergency to be easily accessible to all components of a virtual operations center – regardless of their physical location. “In an emergency, getting the right information to the right people in time to make the right decisions can save lives and protect property,” says Dave Millard, project manager.

OSB is a major, standalone component of **EMADVANTAGE**[®], a PNNL-developed emergency management system that supports all phases of emergency management. OSB is able to disseminate real-time status information with constant, dynamic updates via personal computers and the Internet.

Historically, emergency workers used a checklist drawn on a whiteboard as a status board within the EOC or ICC that was routinely updated by hand. As information technology expanded, status boards graduated to electronic Word documents, Excel spreadsheets, and Web pages.

Using grease pencils, Word and Excel are adequate for sharing information within a single room. But the information needed to respond to and mitigate disasters impact many different organizations and support facilities. "The timely sharing of information must be provided between EOCs; ICCs; mobile command centers; joint information centers; schools, shelters, hospitals and other key public facilities; as well as the general public," Millard says. "OSB directly supports the timely sharing of information between all of the components of a site's extended emergency response program."

The current practice of EOCs creating their own local Web sites to support information sharing via the Internet is a significant step in the right direction. Unfortunately, most local Web sites are not developed to address security, data updates from multiple users, notification, and rapid implementation issues associated with the dissemination of highly dynamic information between multiple users and jurisdictions.

Features of OSB

OSB enables access to the information at an EOC from any personal computer with Internet access and a secure ID. In addition to a **secure connection** and user access codes, privileges are used to control the access and distribution of status information among multiple users. Privileges are also used to identify positions or users who are authorized to add or edit information for a specific status board.

OSB has the ability to **add, display, and update dynamic information** simultaneously at all locations involved in emergency management. OSB allows a single status board to be updated from multiple locations. This capability has direct applicability in the field. It enables multiple shelters to update information about whether they are open, full, or need resources. It allows hospitals to post status on

bed availability and decontamination capabilities.

An important feature of OSB is the **publisher/subscriber notification** mechanism. As users access and view individual status boards, the notification system tracks their entry and automatically marks them as a subscriber. As a subscriber, each user will automatically receive notification of any new information relating to that specific status board. These notifications provide context for the user allowing them to "see" which status boards and status items have been updated.

A key feature of OSB is the **status board designer** that allows a local administrator to quickly define and implement new status boards. The designer also allows an administrator to modify the layout of an existing status board to quickly add new items without losing existing information. Speed is the critical element – a status board can be added or updated in minutes without having to enlist the aid of Web designers and computer programmers. The next time a user accesses or refreshes a status board, the new definition is applied.

Allowing the definition of an existing status board to be modified on-the-fly can be an asset to an EOC during an emergency, where information requirements can change quickly. The ability to add new items to the status board allows this information to be acquired, viewed, and shared between multiple users and jurisdictions. An example of this would be the need to add a new attribute to a predefined shelter status board. The original status board was designed to show the status of a shelter during fire, severe weather, or other general hazards. A chemical event has occurred and the incident commander needs to know whether or not individual shelters have the ability to support decontamination. The design of the shelter status board can be updated in minutes so decontamination information can be added. Once the updated status board has been saved, each shelter is

allowed to provide an answer via the status board. This real-time information can then be seen by the command center, the EOC, other shelters, as well as the support agencies that are likely to provide mobile decontamination to a shelter.

Because status boards can be quickly created, they can be used to track highly dynamic short-term information. For example, the Tooele County Emergency Operations Center in Utah created and used a status board to track the transfer of patients during a two-day move from an older hospital to a newly built hospital. At PNNL, information sciences staff members used OSB to track the efforts of a multi-team effort to recable and upgrade network capability in two buildings.

Partnering Opportunities

OSB and **EMADVANTAGE** have been installed at an oil refinery in Mexico. They use the status boards to track daily activities at the refinery, share the status of key production facilities within the plant, and track the location of EOC personnel during an emergency.

"We translated **EMADVANTAGE** into Spanish, modified it to address situations specific to the oil industry, and transferred it to Petroleos Mexicanos (PEMEX) to support emergency planning and response at their Minatitlan Oil Refinery," Millard says.

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